

**Testimony of Dr. Peter H. Gleick
President, Pacific Institute, Oakland, California**

For the Senate Committee on Natural Resources and Water

Senator Sheila Kuehl, Chair

Tuesday, February 14, 2006

**Dam It, Not Now:
Comments on Governor Schwarzenegger's Water Bond Proposal:**

Madam Chair, Honorable Senators. Thank you for inviting me to discuss water planning and efficiency in California, the new water bond proposal, and its role in our future. This is an important topic with implications for the economic and environmental health and well-being of California.

Summary

Water is vital to our economy, our environment, and our daily lives. As California's population and economy grow, there is mounting concern about our ability to meet future water demand. The traditional approach to meeting this demand has been to develop new supply by building pipelines, dams, reservoirs, and aqueducts to capture, store, and move water from one place or season to another. While this approach has brought tremendous benefits to this state, it has also brought serious and unexpected costs. There is another way: **improving the efficiency with which we use water is the cheapest, easiest, and least destructive way to meet California's current and future water supply needs.** And by improving efficiency, I mean doing the things we want to do, with less water.

The potential for reducing the waste of water remains very large. As a result, **the Governor's proposal to request money early in the bond process for new water infrastructure, specifically new dams and reservoirs, is a serious financial, environmental, and political mistake.** The same amount of money spent on reducing water waste would be far more productive.

Traditional Water Planning Assumptions are Incorrect

Water planning, as practiced in the 20th century, is based on two premises. First, that population, the economy, and water use are inextricably linked such that water use will increase as the economy and population grow. And second, to meet the needs of a growing population, we must build more physical infrastructure to take water from rivers, lakes, and groundwater aquifers.

Both of these assumptions are no longer true. We have broken the link between the growth of our population and economy and the size of our water demands. Figure 1 shows California's gross state product, population, and water use between 1975 and 2001. **Total water use in California was less in 2001 than it was in 1975, yet population increased by 60% and gross state product increased 2.5 times.** In the 1960s we produced only \$1 in goods and services for every 100 gallons of water we used. Today we produce more than \$10 for every 100 gallons used, even correcting for inflation (Figure 2). Forty years ago we used nearly 2000 gallons for every person in the state every day. Today we use half that amount (Figure 3). We can break, and in fact, have broken the link between growing water use, population, and economic well-being. This has been achieved in part by improvements in conservation and efficiency, as well as the changing nature of our economy.

Conservation and Efficiency Are Viable – Indeed, Preferable – Alternatives

It is important to realize that we do not want water; we want water services. We want to grow food, make semiconductors, remove wastes, bathe, cook, and clean, and more. If we can do these things, with less water, it will reduce pressure on the State's limited and valuable resources. This realization lies at the heart of conservation and efficiency. Thus conservation and efficiency provide a means by which we can maintain these services while reducing our water use.

Although Californians have improved efficiency of our water use over the past 25 years, current water use is still inefficient. The Pacific Institute's "Waste Not, Want Not" report,

released in November of 2003, provides a comprehensive statewide analysis of the conservation potential in California's urban sector. This study finds that existing, cost-effective technologies and policies can reduce current (2000) urban demand by more than 30 percent.

Widespread conservation and efficiency improvements are possible in every sector. Significant water savings can be found for much less than the cost of building new supply or expanding our current supply. These savings are real and represent a tremendous amount of untapped potential in California's urban sector. This suggests that improved efficiency and conservation are the cheapest, easiest, and least destructive ways to meet California's water supply needs.

A Water-Efficient Future is Possible

Conservation and efficiency can meet our needs for decades to come. A September 2005 report by the Pacific Institute, entitled "California Water 2030: An Efficient Future," presents a vision of California in which improvements in water-use efficiency are considered the primary tools for reducing human pressures on the state's water resources. This study finds that total human water use can decline by as much as 20 percent while still satisfying a growing population, maintaining a healthy agricultural sector, and supporting a vibrant economy. Some of the water saved could be re-dedicated to agricultural production elsewhere in the state; support new urban and industrial activities and jobs; and restore California's stressed rivers, groundwater aquifers, and wetlands.

Figure 4 shows historical water use for California from 1960 to the present, along with two scenarios. One is the most recent Department of Water Resources "Current Trends" scenario. The other is the new Pacific Institute "Efficient Use" scenario. Several things are noteworthy about this Figure. First of all, actual water use in California has leveled off in recent years, as we have begun to improve efficiency. In fact, we use less water in 2000 for all purposes than we did in 1980, as also shown in Figure 1. Second, note that **even the DWR Current Trends scenario shows declining water use statewide between now and 2030.** And finally, the Pacific Institute scenario shows that even

greater improvements in conservation and efficiency are achievable, quickly and cost-effectively. Now is not the time for massive taxpayer subsidies for new, unnecessary storage.

Can such an efficient water future be achieved? Yes, given appropriate attention and effort, California's water-use practices can be substantially modified over the next quarter century, just as they have over the past 25 years. Implementing these efficiency measures requires action on the part of legislators, water managers, water districts and agencies, farmers, corporations, and all individuals. It does not require new dams and reservoirs.

Recommendations

The "California Water 2030" report highlights a number of actions that must be taken to begin working toward an efficient future. We recommend a wide range of actions, including new water-efficiency standards and labels statewide, revision and expansion of current "best management practices" for both urban and agricultural users, development and deployment of more efficient irrigation technologies and crop types, better collection and management of water use data, comprehensive groundwater monitoring and management programs, and much more.

Spending vast new sums of money on unnecessary storage is not one of them, and indeed, will delay needed improvements in other areas. We have limited water in California, limited money, and competing demands. We have no limit to our ingenuity. We must capture the water savings that are the most cost-effective and environmentally smart, and not build new infrastructure that we do not need and cannot afford.

Thank you for the opportunity to testify today.

**Supporting Figures for the Testimony of Dr. Peter H. Gleick
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California Economy, Population, and Water Use

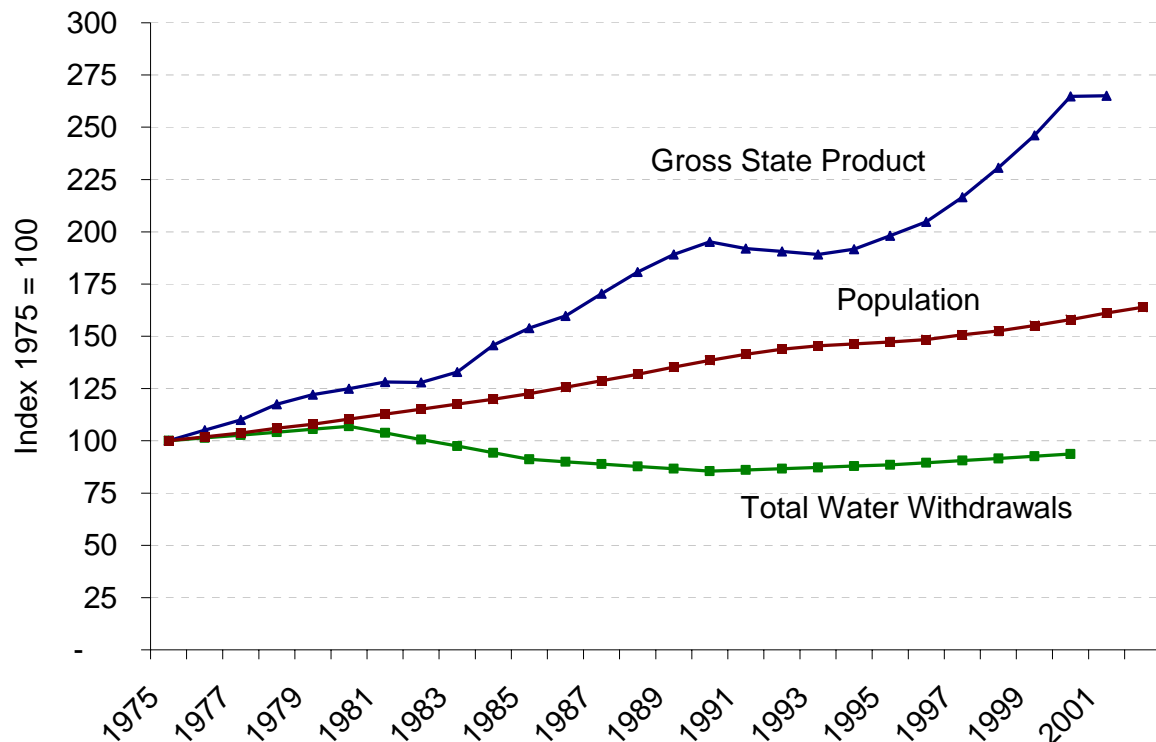


Figure 1. California's water use (green line), population (red line), and gross state product (blue line) between 1975 and 2001. Data are indexed to 1975. Note that GSP has gone up more than 2.5 times, while water use has actually declined. Water use from the U.S. Geological Survey. Analysis by the Pacific Institute.

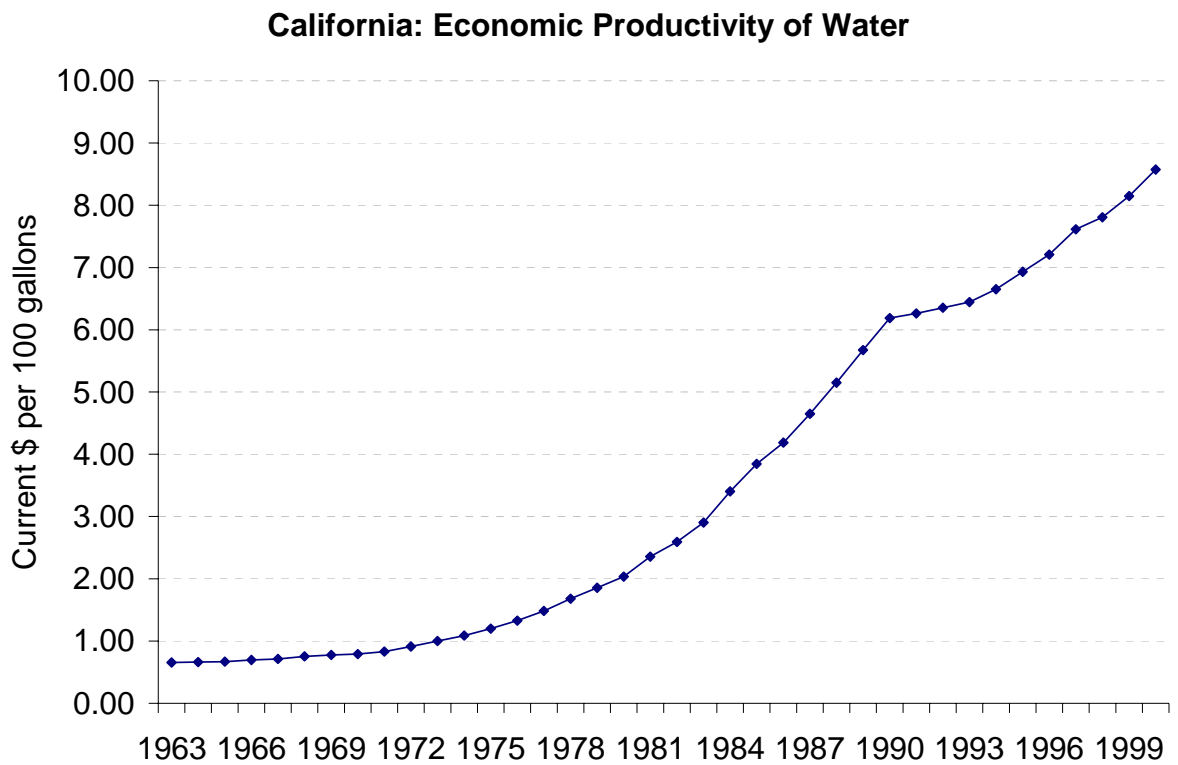


Figure 2. California’s “economic productivity of water” showing that the state now produces \$9 of goods and services for every 100 gallons of water used, compared with less than \$1 per 100 gallons in the 1960s, corrected for inflation. Analysis from the Pacific Institute.

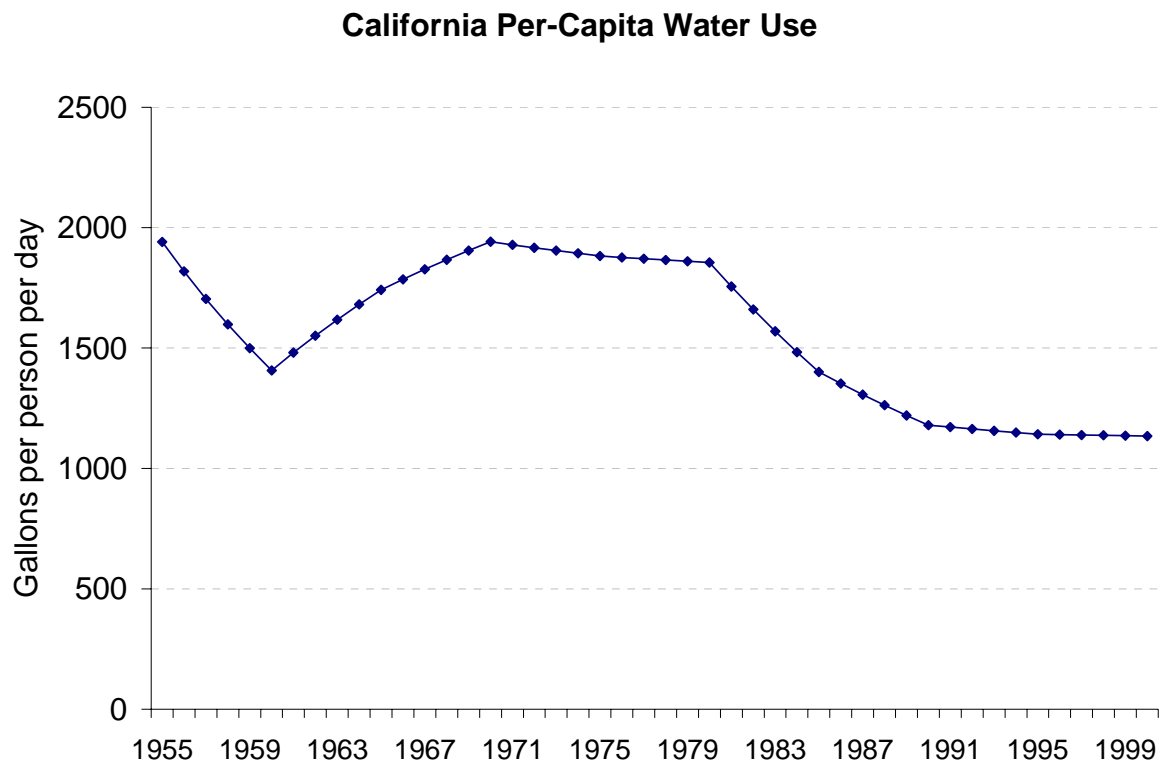


Figure 3. Water use per person in California. Note that water use per person has dropped almost in half over the past forty years as conservation and efficiency, and changes in California's economy, have improved productivity.

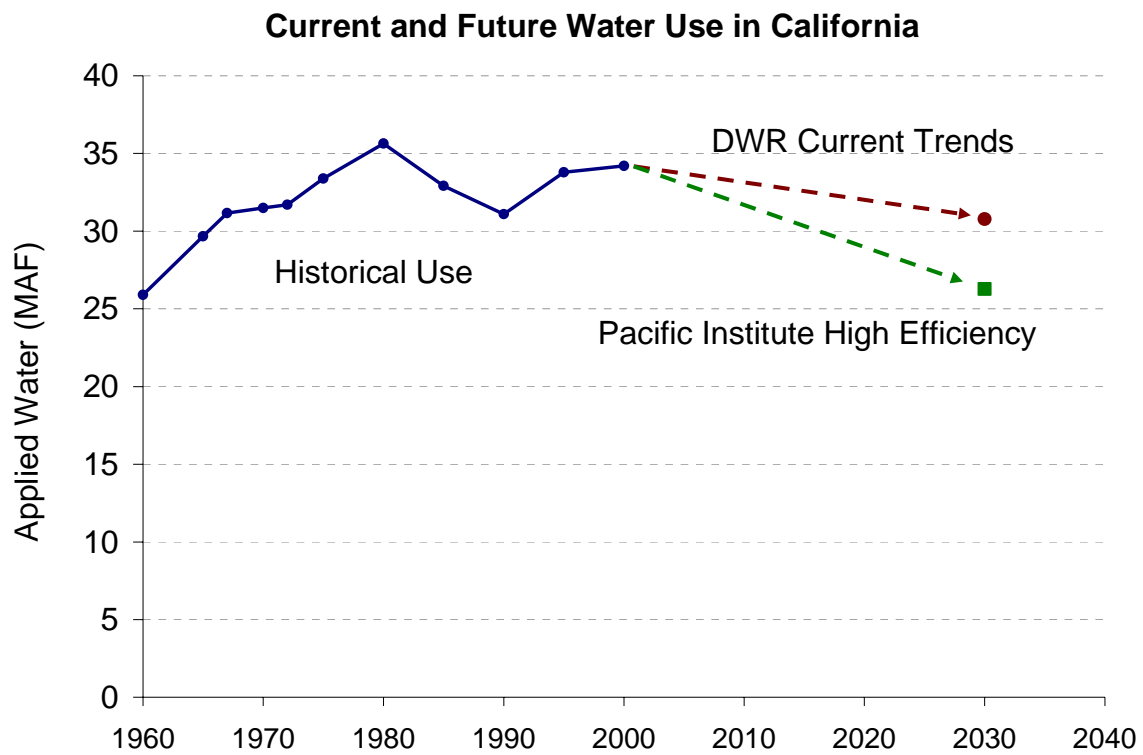


Figure 4. Historical water use in California, from 1960 to 2000, along with two scenarios of future water use to 2030. The first is the latest DWR “Current Trends” scenario showing declining water use, despite growing population and a healthy agricultural sector and economy. The second is the Pacific Institute “High Efficiency” scenario showing even greater declines in total water use with implementation of existing and cost-effective conservation and efficiency improvements to 2030.